

IN THE CLAIMS

Claim 1. (Currently Amended) A method of facilitating the transmission of medical images on a network, the method comprising the steps of:

receiving a transaction request relating to the delivery of at least one medical image from a data source to a data target on a network;

~~interfacing the data source and data target to coordinate delivery between the data source and data target;~~

scheduling delivery of the medical image to occur at a scheduled point in the future, between the data source and the data target on the network, the step of scheduling comprising ascertaining a relative policy-based priority of the transaction request compared to other previously received transaction requests, sorting all of the transaction requests that have been received and which have not yet started to be executed according to a policy-based priority, and allocating future timeslots to each transaction request to thereby enable the transaction requests to be scheduled over time for execution in the future according to their respective priorities;

reserving network resources on the network ~~for the delivery of~~ to enable the medical image to be delivered over the network from the data source to the data target at the scheduled time for execution;

interfacing the data source and data target to instruct the data source to transfer the data over the reserved network resources to the data target at the future scheduled time for the transaction request to thereby coordinate delivery of the medical image between the data source and data target;

monitoring the delivery of the medical image over the network; and

adjusting the steps of scheduling and reserving, if necessary, to accommodate higher priority transaction requests that are subsequently received and network conditions, the step of adjusting comprising determining which of the transaction requests that have been scheduled over time for execution in the future have a priority that is higher than the subsequently received transaction request (higher priority requests), determining which of the transaction requests that have been scheduled over time for execution in the future have a priority that is lower than the subsequently received transaction request (lower priority requests), and changing the scheduled time for execution of the lower priority transaction requests so that the subsequently received

transaction request will be executed at a point in the future after the higher priority requests are executed and before the lower priority transaction requests are executed; and

adjusting the steps of scheduling and reserving, if necessary to accommodate adverse network conditions, if the adverse network conditions delay execution of one or more transaction requests to prevent execution of the transaction requests from occurring as scheduled.

Claim 2. (Original) The method of claim 1, wherein the step of scheduling comprises understanding a work flow of transactions on the network.

Claim 3. (Previously Presented) The method of claim 2, wherein the step of understanding the work-flow comprises anticipating upcoming transaction requests from other transaction requests, statistics, or transaction patterns.

Claim 4-6. (Canceled)

Claim 7. (Currently Amended) The method of claim 1 ~~claim 4~~, wherein ascertaining a relative priority comprises determining, from the transaction request, who issued the transaction request, where the transaction request was issued, and why the transaction request was issued.

Claim 8. (Canceled)

Claim 9. (Original) The method of claim 1, further comprising generating a histogram of traffic patterns on the network on at least one of a daily and weekly basis.

Claim 10. (Canceled)

Claim 11. (Currently Amended) The method of claim 1 ~~claim 10~~, wherein the transaction request specifies a requested timing, and wherein the requested timing is under-constrained.

Claim 12. (Canceled)

Claim 13. (Original) The method of claim 1, wherein the step of reserving network resources comprises setting a class of service for the transaction request.

Claim 14. (Original) The method of claim 1, wherein the step of reserving network resources comprises interfacing with network elements to allocate at least one of a route and a path through the network.

Claim 15. (Original) The method of claim 14, wherein the step of reserving network resources further comprises reserving bandwidth on the allocated route or path.

Claim 16. (Previously Presented) The method of claim 1, wherein the step of reserving network resources comprises rate-limiting medical image sourcing applications to prevent the medical image sourcing applications from transmitting medical images on the network.

Claim 17. (Currently Amended) A medical image transport service configured to facilitate and coordinate the transmission of a medical image from a data source to a data target on a network, comprising:

a data management service to perform network topology discovery and path allocation, control the data source and data target, and schedule transmission of a medical image to occur at a future point in time from the data source to the data target, the data management service controlling operation of the data source such that the data management service is able to specify when and at what data rate the data source will output data on to the network; and

a network resource manager to interface network devices in the network to reserve network resources on the network for the transmission of the medical image from the data source to the data target based on the path allocation and the schedule determined for the transmission of the medical image by the data management service.